• ECOLOGICALLY SAFE • ENVIRONMENTALLY FRIENDLY • EFFECTIVE AFFORDABLE METHOD •

OIL AND GAS WELL HYDRO SLOTTING PERFORATION PROFESSIONAL SERVICE

Maximize well production

# MAXXWELL PRODUCTION

CONTINUOUS MOVING JET SLOTTING PERFORATION TECHNOLOGY FOR VERTICAL AND HORIZONTAL WELLS

Maxxwell Production - Enhance Oil/Gas Recovery (EOR) with Slotting Perforation Technology (SPT) professional service company

https://www.maxxwellproduction.com
https://www.maxxwell.us

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# Enhance Oil Recovery (EOR) with Slotting Perforation Technology

https://www.youtube.com/watch?v=c0IhqzyIDWI&feature=emb_logo

# Maxxwell Production - EOR SPT professional service company


# Background

1. Due drilling of any well is formed the circular tangential stress conditions (for each 1000 ft. around 1700 psi), which reduces the permeability and positive reservoir properties:
   http://www.maxxwell.us/initial,
   https://maxxwellpro.wixsite.com/maxxwellproduction/theory.
2. Small opening area of the casing creates additional resistances:
3. http://www.maxxwell.us/optional,
4. https://maxxwellpro.wixsite.com/maxxwellproduction/theory.

For above factors does not attach importance, nevertheless, they already affect the decrease in the initial influx.

# Technology

Slotting Perforation Technology (SPT) - cutting of continued deep slots along the wellbore.

Cutting is done by special SPT tool/equipment through casing, cement into the productive layer to a depth 3 - 5 ft. In this case, the circular stress conditions are redistributed to the ends of the slots, unloading the near wellbore zone, increasing permeability, positive reservoir properties, and accordingly the productive inflow.

# Main idea

1. Unloading annular compressive stress in the near wellbore zone (for increases of permeability/porosity, and accordingly increasing the productive inflow. Hydro-slotting perforation is the only method, supposed to unload annular compressive stress conditions around the wellbore.
2. Opening a large casing's area and creation of a large drainage penetration's zone in the productive formation (for good hydrodynamic connection well with the productive formation).

- SPT is the only method, supposed to unload annular compressive stress conditions around the wellbore.
- SPT is ecologically safe, environmentally friendly (used water and sand).
- other benefits:
  http://www.maxxwell.us/benefits.

# Benefits of Slotting Perforation Technology (SPT):

- ecologically safe, environmentally friendly (water and sand)
- very long duration of effect (up to 15-20years)
- opportunity of using near the water reservoirs (impossible to make a hydraulic fracturing)
- the process is controlled (length and depth of slots)
- the process takes place within the productive formation, and not affects other layer sand zones
- large opening area, penetration depth is up to 5 feet
- no detonation impact, no casing damage, no cement cracks, no clog-up the formation in borders
- unloading the tangential circle stress conditions in the near wellbore zone up to 50-100%
- increases the collecting properties in the near wellbore zone
- increase of the drainage volume characteristics in more than 6 times
- increase of permeability and accordingly increase the useful inflow up to 30-50%
- opportunity to use in any wells and in any formations

# Application area for SPT:

- oil, gas and injection wells
- vertical and horizontal wells
- newly drilled and old wells
- sandstone, carbonate, shale, etc. formations
- shallow and deep wells
- high-temperature and low-temperature wells
- low-viscosity and high-viscosity, etc.

# Maxxwell Production - EOR SPT professional service company

Since 2012 Maxxwell Production, provided Enhance Oil Recovery (EOR) processes with unique Slotting Perforation Technology (SPT) - cutting of deep continuous slots along the well casing through a casing string, cement ring and further in a productive formation, using a special patented SPT tool/equipment. SPT processes due development of newly drilled and restoring of old low-productive, dry, dead, abandonment oil, gas and injection wells were successfully conducted in the United States (California, Kansas, Nebraska, New York, Oklahoma, Pennsylvania, Texas) and in Canada (Manitoba, Saskatchewan).

The company operated by own SPT tool/equipment, developed and produced by own design, according to own patents, confirmed and protected by United States Patent and Trademark Offices. For specific calculations of SPT technological parameters we used our own computer programs developed by our Engineers.

Our specialists took part in creating of ultrasonic cavitation's machine for separating oil from oil sands. In 2011 we took part participated in "Oil & gas exhibition and conference 2011" in Calgary, Alberta. Since the beginning of 2015 Maxxwell Production designed and built special SPT tool/equipment for horizontal wells. Our company concluded 30 direct long-term service-contracts for SPT with 12 leading oil & gas company-operators and service-companies, as "Chevron USA", "Baker Hughes USA", "Darby Holdings", "Admiralty Oils", "Redux Energy", "Oil Production Intensification", "Oil Well Consulting ", "ORCI" and other.

# Service

- Hydro-slotting perforation technology (HSP)
- Stretch-slotting perforation technology (SSP)
- Selection of Oil and Gas wells, Geological and Geophysical analyzes
- Determination the main causes of debit fall, and effective treating
- Forecasting results and financial benefits, preparation of Project-Programs
- Preparation and testing of slotting perforation tool/equipment and parts
- Participation in the organization of completion/re-completion works
- Conducting of SPT processes directly on the well-sites
- Supervision, management, control, correction of SPT processes
- Technical support and accompaniment, consulting for technical Issues
- Recommendations for followed exploitation of the wells

# Patents

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|---|---|
| US 8863823 | Universal underground hydro-slotting perforation system, controlled by working fluid pressure, for activation and intensification of gas, oil and hydro-geological wells<br>https://www.google.com/patents/US8863823<br>Granted: October 21, 2014 |
| US 8240369 | Slot-perforating system for oil, gas and hydro-geological wells<br>https://www.google.com/patents/US8240369<br>Granted: August 14, 2012 |
| US20130105163 | Method of opening productive formation and a working fluid<br>(Application)<br>http://www.google.com/patents/US20130105163<br>May 2, 2013 |
| US20180340401 | Method and system for creating unloading slots in oil and gas wells by stretch-slotting perforation<br>(Application)<br>https://patents.google.com/patent/US20180340401 |

# Additional

- www.maxxwell.us
- https://www.maxxwellproduction.com/
- Sample of SPT Project
- Sample of Geological and Geophysical analyzes
- Slot Perforation Technology presentation
- Slot Perforation Technology in Wikipedia
- "Conversation with the well"
- "Instead of Introduction"
- Video-1
- Video-2
- Video-3
- Video-4
- Video-5

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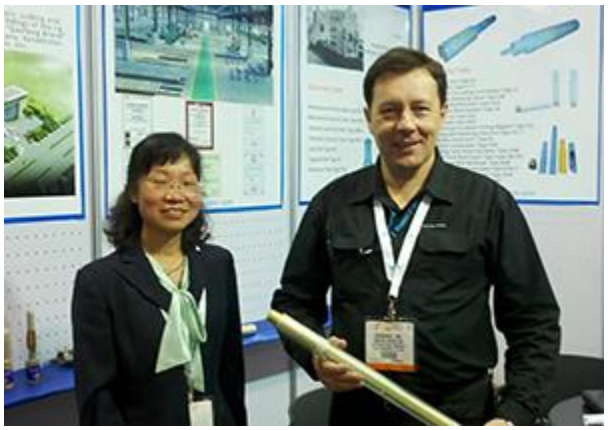


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